

CLAIMS

1. A jackhammer positioner for assisting a worker in the over ground handling of a jackhammer, comprising :

- a ground support member;
- 5 – a base mounted onto said support member and moveable relative thereto;
- an articulated arm having first and second ends, moveably mounted onto said base at said first end, said arm comprising a number of displacement joints, said articulated arm further comprising a jackhammer support member at said second end for interconnecting said arm to the jackhammer;
- 10 – power means for power biasing said articulated arm into a continuously erected posture;

wherein at least three of said displacement joints are pivot joints, and wherein one of said displacement joints is a translation joint.

15 2. A jackhammer positioner as in claim 1,
wherein said base is pivotally mounted onto said ground support member.

3. A jackhammer positioner as in claim 2,
wherein the range of reach of said jackhammer support member sweeps a volume
20 represented by a virtual half sphere with said base forming approximately the center of
said half sphere.

4. A jackhammer positioner as in claim 1,
further comprising control means operatively connected to and controlling said power means.
- 5 5. An articulated support member for assisting a worker in the over ground handling of a jackhammer having a main body and a hammering head at one end of the main body thereof, said support member comprising :
- an articulated arm, movable between a retracted limit first position and an extended limit second position, said arm defining an inner end and an outer end;
 - 10 – base means, for supporting said articulated arm spacedly over ground;
 - first mounting means, mounting said arm inner end to said base means for free relative movement of said articulated arm relative to said base means;
 - power means, for power biasing said articulated arm into a continuously erected posture;
 - 15 – a command and control unit, for securing and operating the jackhammer in a continuously airborne fashion, said unit defining an elongated main frame having a first end portion with a jackhammer attachment assembly and a second end portion opposite said first end portion with a manual command and control template; and
 - second mounting means, interconnecting said jackhammer attachment assembly and
20 said arm outer end for relative movement therebetween, for continuously maintaining the jackhammer spacedly over ground so that the weight load of the jackhammer be fully compensated;

wherein the range of reach of said jackhammer attachment assembly over ground sweeps a volume represented by a virtual half sphere with said base means forming approximately the center of said half sphere.

5 6. A support member as in claim 5,
wherein said second mounting means includes means for anchoring the jackhammer main body at the center of gravity thereof.

7. A support member as in claim 5,
10 wherein said manual command and control template includes means for remote control of said power means.

8. A support member as in claim 5,
further including translational motion means, integral to said main frame of said
15 command and control unit for relative movement of said jackhammer attachment assembly relative to said manual command and control template.

9. A support member as in claim 5,
further including second power means, operatively connected to said manual command
20 and control template for selectively powering the jackhammer head in a reciprocating motion.

10. A support member as in claim 5,

wherein said first mounting means includes a turntable rotatably supporting said arm inner end about an axis transverse to said turntable.

11. A support member as in claim 5,

5 wherein said base means includes a lift platform movable vertically over ground.

12. A support member as in claim 11,

wherein said first mounting means includes a turntable fixedly secured to said lift platform and rotatably supporting said arm inner end about an axis transverse to said
10 turntable.

13. A support member as in claim 11,

wherein said first mounting means includes :

- an elongated rail member, fixedly mounted to said lift platform,
- 15 - a carriage rollingly mounted to said rail member for rolling displacement of said carriage therealong, said carriage having a transverse frame, and
- a turntable, fixedly secured to said carriage transverse frame and rotatably supporting said arm inner end about an axis transverse to said turntable;

wherein said articulated arm and associated command and control unit are movable into a
20 translational motion over said platform.

14. A support member as in claim 12,

wherein said turntable includes a central axle with low-friction PTFE coating.

15. A jackhammer device comprising :

- a jackhammer comprising a jackhammer operative tip;
 - an articulated arm supporting said jackhammer, said arm movable between a retracted
5 limit first position and an extended limit second position, said arm defining an inner
end and an outer end;
 - first mounting means, interconnecting said jackhammer and said arm outer end for
relative movement therebetween;
 - base means, for supporting said articulated arm spacedly over ground;
 - 10 – second mounting means, mounting said arm inner end to said base means for free
relative movement of said articulated arm relative to said base means;
 - power means, for power biasing said articulated arm into a continuously erected
posture and for maintaining said jackhammer spacedly over ground;
- wherein the range of reach of said jackhammer operative tip sweeps a volume represented
15 by a virtual half sphere with said base means forming approximately the center of said
half sphere.